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1. The Berliner Technisches Buero (BTB), located in Berlin-Adlershof, Rudower Chaussee is one of three offices for technical and scientific research and development affiliated with SAG **Transmasch**. The other two offices are WTB 1 (Wissenschaftlich-Technisches Buero) and **WTB** 2. **WTB** 1 is the former Pittler machine factory in Leipzig, engaged in the development of machine tools; **WTB** 2, located in Dresden, is engaged in the development of automobile chassis and accessories. Until June 1952 WTB 3 in Chemnitz was also under **SAG Transmasch**. It is now a people's-owned plant under VVB IFA, the association of people's-owned vehicle plants.

2. BTB was affiliated with SAG Avtovelo until June 1952, when it was transferred to SAG **Transmasch**. BTB continues to work in close cooperation with the Wissenschaftlich-Technisches Buero fuer Geraetebau (WTBG) at Berlin Neue Bahnhofstrasse. The WTBG was transferred from SAG Avtovelo to SAG Kabel, also in June 1952. The WTBG continues to develop measurement devices, tools and accessories for the BTB.

3. The BTB and the WTB's under **Transmasch** are under the over-all direction of (fnu) Smolikov, head of the scientific-technical research and development department at SAG **Transmasch** headquarters in Leipzig. Prior to the transfer to SAG **Transmasch** the BTB was under the direction of (fnu) Minaev, who was transferred to the Soviet Control Commission in Karlshorst before Smolikov took over. Minaev has since come to BTB a few times at irregular intervals. The director and chief engineer of BTB is (fnu) Mishkin. He is the only Russian permanently assigned to BTB.

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25 YEAR RE-REVIEW

4. Richard Schlunke is the German director of BTB. Until 1945 he was with the Deutsche Versuchsanstalt der Luftfahrt (DVL). In 1945, Schlunke and other former DVL technicians established the BTB on Russian orders. The German chief engineer is Franz Johann Eberle. BTB has a total crew of about 220 persons, most of whom are engineers, designers and technicians. The following are the departments and department chiefs at BTB:

Experimental Department	-	Dipl. Ing. Herbert Gleue
Construction Department	-	(fnu) Auktor
Assembly Department (Fertigung)	-	Chief foreman Xaverl Schleicher
Planning Department	-	(fnu) Postulka
Purchasing Department	-	(fnu) Metzig
Motor Development Laboratory	-	Josef Bastin
Measurement Laboratory	-	(fnu) Egbers
Test Stand Construction Department	-	Bruno Beier

The Construction Department is divided into a section for the construction of devices (Geraetebau), also under Auktor, and a motor construction department, headed by (fnu) Haenel. Most of the technical personnel assigned to the construction department are former technicians of DVL, Junkers, Flettner and Argus.

5. The BTB is assigned research and development orders by the Russian Academy of Sciences through undetermined channels. Each order bears a number, such as 3/6/M, which, in this instance, means the third order in the current year, theme six, Moscow. The following orders have been assigned in this way to BTB since the beginning of 1951, and the BTB has been working on them since:

(a) Development of a universal test stand for the investigation of motor car parts exposed to more than normal stress
(b) Development of a device for the investigation of motors in respect to pressure and temperature
(c) Development of a device for the measurement of the cardan shaft rotation moment
(d) Development of a single-cylinder test block for universal use; development of a test motor for fuels
(e) Development of devices for the investigation of combustion and hydromatic processes in motors:

(1) Flux test stand (Stroemungspruefstand)
(2) Carburetor test stand
(3) Single-cylinder Otto motor
(4) Single-cylinder Diesel motor
(5) Spherical bomb with external ignition (Kugelbombe mit Fremdzuendung)
(6) Spherical bomb with internal ignition (Eigenzuendung)
(7) Injection methods for the spherical bomb
(8) Combustion in a cylinder
(9) Knock measurement devices

(f) Development of complete test stands for Otto, Diesel and gasoline motors with temperature control installation (Klimaanlage)
(g) Development of an installation for the measurement of the instantaneous temperature in the cylinder of a combustion motor
(h) Development of an installation for the determination (Festlegung) of instantaneous temperatures in rapidly changing succession in the cylinder of a combustion motor
(i) Development of an installation to be used for research on oscillations, tensions and form changes in automobiles
(j) Development for the testing of clutch and brake linings
(k) Development of a 60 HP Diesel motor with air cooling (Boxer motor)

6. Research and development orders assigned to BTB are usually accompanied by detailed specifications which are kept under lock and are accessible only to heads of departments. For example, specifications for order number (f) stipulated that the motors involved were to have the following outputs: Otto, 200 HP; Diesel, 200, 800, 2,500 and 4,500 HP; and gasoline, 200 HP. It was furthermore specified that the temperature control was for 200 HP only.

7. While BTB was engaged in the execution of the assigned orders, it received the following new orders from the Russian Academy in January 1952:

(a) Development of a test stand for the investigation of compressors for combustion systems
(b) Development of oil pumps for automobile tippers
(c) Development of a mobile installation for the measurement of air quantities
(d) Development of a mobile condenser stand (fahrbares Kuehlergestell) for constant medium cooling temperature for motors up to 200 HP
(e) Development of a gas turbine for motor vehicles between 80 and 120 HP

8. After an order is completed, the finished pilot model is shipped to Russia together with a detailed technical description, usually several hundred type-written pages with sets of photographs, drawings and test results. For every order monthly, quarterly, semi-annual and annual progress reports are also dispatched to Russia presumably to the Russian Academy of Sciences. None of the orders listed above has as yet been completed; order number (1) of (e) is near completion. It is expected that a new set of orders will be received at the beginning of 1953.

9. In addition to carrying out development orders, the BTB has been engaged in research on combustion and flux processes, also at the order of the Russians. Such research has been carried out with the aid of a spherical bomb, that is, a hollow sphere made of cast steel, with a diameter of about 45 centimeters and a wall-thickness of about 20 millimeters. The bomb has two windows made of Homosil glass, set opposite each other in the wall of the sphere; the Homosil glass was procured from West Germany and from the Schott und Genossen, Jena. A spark plug reaches into the interior of the sphere. The bomb is provided with external indicators for the measurement of pressure, with thermoelements and with an ionization stretch for speed measurement. The sphere is evacuated prior to investigation, then filled with pre-heated air; various kinds of fuel are then injected into it and ignited. After ignition the combustion processes of the fuels are studied. Fuels frequently used for this purpose are gasoline with an octane rating of 64 and a fuel called DZ 74. Similar studies have been conducted with the aid of a whirlpool chamber (Wirbelkammer). During 1952 BTB carried out extensive research on combustion processes in glass cylinders, using Schlieren devices delivered by VEB Carl Zeiss, Jena. BTB has ordered but not yet received an interferometer from Zeiss. Results of BTB research are turned in to the Russian directorate in periodical progress reports at the same intervals used for reporting on apparatus development.